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(56) Documents cited

GB 1585684	GB 0419785	GB 0325869
GB 0838207	GB 0402838	GB 0253498
GB 0668420	GB 0397568	GB 0243129
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(58) Field of search

C5G

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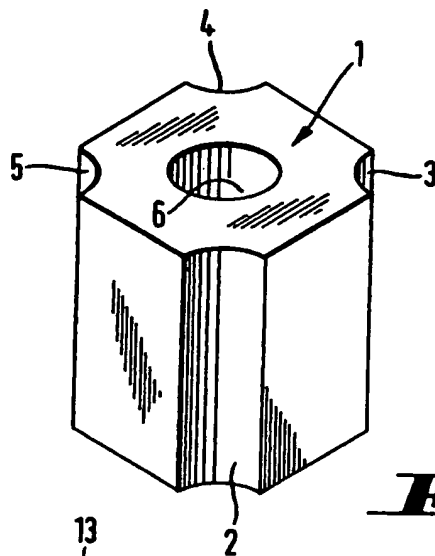
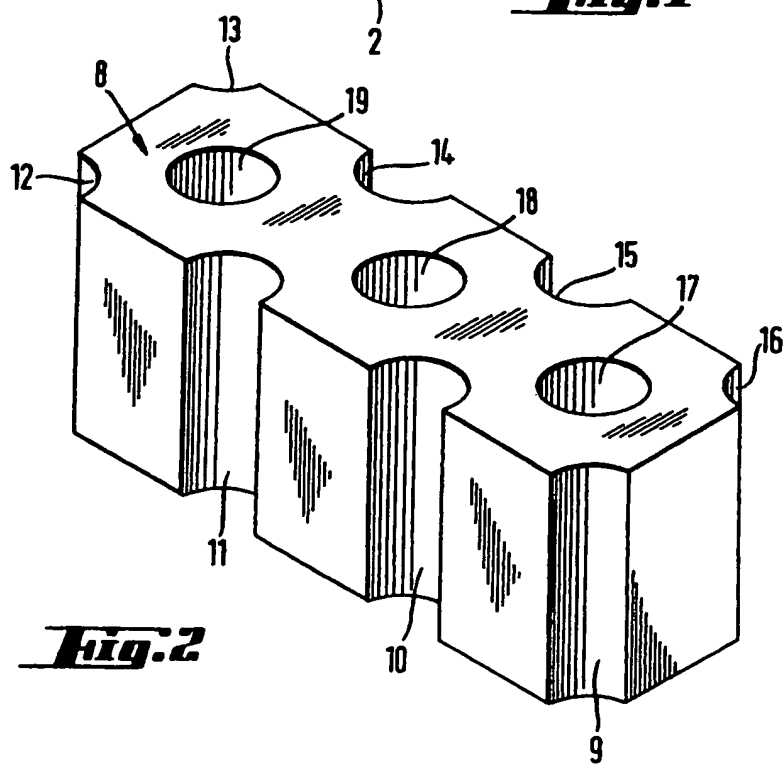
(54) Fuel briquette giving improved combustion or draught

(57) A fuel briquette is described in which improved combustion is achieved by producing the briquette in a shape which yields a very large external surface area. This is achieved *inter alia* by forming grooves and recesses in the outer face(s) of a block of material and by forming holes through the block which further improved the draught during combustion.

When the briquette is formed by a wet process, the drying time is decreased due to the very large external surface area.

A preferred briquette is formed from a coal and/or coke mixture with an adhesive of a cement such as Portland cement or Lime added.

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**Fig. 1****Fig. 2**

## SPECIFICATION

### Fuel briquette giving improved combustion or draught

#### 5 *Field of invention.*

The present invention relates to an improved fuel briquette the design of which permits improved draught and improved combustion.

#### 10 *Summary of the invention.*

A fuel briquette according to the present invention comprises a mass of combustible material characterised by a specific shape which increases its external surface area, i.e. that surface which is in contact with the surrounding air.

According to one embodiment a briquette is formed with one or more grooves in its external surface so as to increase the external surface area thereof.

According to a preferred embodiment, holes or openings may be formed through the briquette. The presence of these holes or openings increases draught during combustion.

The increase in the external surface of the briquette not only improves combustion but also reduces the drying time during manufacture when a wet manufacturing process is employed.

A briquette according to the invention can be produced with edges which are straight and/or curved lines.

The combustible material from which a briquette according to the invention is made can be selected from substances such as wood, coal, coke, agricultural waste, household waste, rubber, tar, tree bark, synthetic materials, either alone or in combination in determined or random proportions. Such materials are referred to as base materials.

It may be advantageous to add natural or synthetic additives to such materials. Thus for example when coal or coke is used as a base material, it is possible to add as an adhesive or additive, natural Portland cement, or one or more of the cements referred to in NBN standard 771, or Lime.

These natural additives or adhesives have the advantage of converting the sulphur present in the base product into a harmless substance.

A fuel briquette according to the invention can be manufactured by a dry or wet, hot or cold process by casting or moulding, by compression in a press, impact compression or even vibration compression. These procedures are well known in the art and will not be described in detail here.

The invention will now be described by way of example with reference to the accompanying drawings in which the two figures illustrate two embodiments of the invention.

#### 65 *Detailed description of embodiments.*

According to the embodiment of Fig. 1, which forms an integral part of the invention, a basic briquette essentially comprises a cube or parallelepiped with a substantially square base section, the vertical edges of which are in this case formed by grooves 2, 3, 4, 5 which are either curved or have a profile which is an arc of a circle. Thus, these grooves 2 to 5 form recesses, which increase the external surface area of the briquette.

The basic briquette also has a through hole or opening 6, which also serves to increase the effective external surface area thereof. Thus, the briquette has a specific shape increasing its external surface area, with a view to obtaining the advantages hereinbefore referred to.

Naturally, the basic briquette may alternatively have a generally rectangular section or generally polygonal section or a generally circular section.

Fig. 2 shows another embodiment of the invention, which can be looked upon as a combination of three of the basic briquettes of Fig. 1. Thus the composite briquette 8 has vertical grooves 9, 10, 11, 12, 13, 14, 15, 16 and three through holes 17, 18, 19.

Naturally any number of grooves or through holes can be employed and the device and size and position may be random with a view to increasing the external surface area of the briquette.

The invention includes all methods and techniques constituting technical equivalents of the methods and products herein described as well as any combinations thereof.

## CLAIMS

1. A fuel briquette of combustible material having a shape which is selected so as to provide a large external surface area.

2. A briquette as claimed in claim 1, wherein one or more grooves are formed in the external surface thereof.

3. A briquette as claimed in either of claims 1 and 2, wherein the briquette is formed with one or more holes or openings therethrough also to increase the external surface area thereof.

4. A briquette as claimed in any one of claims 1 to 3, wherein edges of the briquette are in the form of straight lines.

5. A briquette as claimed in any one of claims 1 to 4, wherein edges of the briquette are in the form of curved lines.

6. A briquette as claimed in any one of claims 1 to 5, wherein the combustible material is selected from wood, coal, coke, agricultural waste, domestic waste, rubber, tar, tree bark and synthetic materials, including mixtures thereof in selected or random proportions.

7. A briquette as claimed in any one of claims 1 to 6, which incorporates natural or synthetic adhesive materials.

8. A briquette as claimed in any one of claims 1 to 7, formed from a combination of combustible material of coal and/or coke and an additive or adhesive material comprising a
- 5 natural Portland cement, and/or Lime.
9. A briquette as claimed in any one of claims 1 to 8, when prepared by a wet or dry, hot or cold process by casting or moulding, compression using a press, impact compression or vibration compression.
- 10 A briquette constructed as described with reference to and as illustrated in Fig. 1.
11. A briquette constructed as described with reference to and as illustrated in Fig. 2.

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